

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
16 June 2005 (16.06.2005)

PCT

(10) International Publication Number
WO 2005/055507 A1

(51) International Patent Classification⁷: **H04L 1/06**

(21) International Application Number:

PCT/IB2003/005587

(22) International Filing Date: 3 December 2003 (03.12.2003)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (for all designated States except US): **NOKIA CORPORATION** [FI/FI]; Keilalahdentie 4, FIN-02150 Espoo (FI).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **PASANEN, Pirjo** [FI/FI]; Iltatie 19 C 11, FIN-01670 Vantaa (FI). **TIRKKONEN, Olav** [FI/FI]; Puroniuynpolku 5 A 6, FIN-00720 Helsinki (FI).

(74) Agent: **COHAUSZ & FLORACK** (24); Kanzlerstr. 8a, 40472 Düsseldorf (DE).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

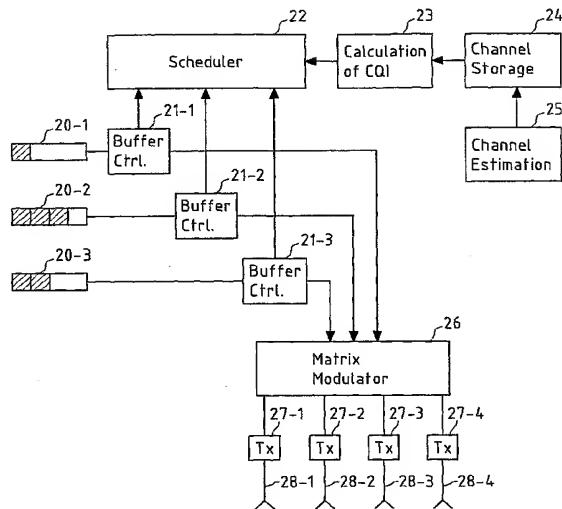
(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: EXPLOITING SELECTION DIVERSITY IN COMMUNICATIONS SYSTEMS WITH NON-ORTHONORMAL MATRIX AND VECTOR MODULATION



(57) **Abstract:** The invention relates to methods for scheduling at least one out of K transmission channels k with respective $N_{t,k}$ transmission interfaces and respective $N_{r,k}$ reception interfaces for the transmission of data symbols that are matrix or vector modulated, said method comprising calculating a respective Channel Quality Indicator (CQI) q_k for at least one of said K transmission channels, and scheduling at least one of said K transmission channels for the transmission of said matrix or vector modulated data symbols, wherein said scheduling is at least partially based on said calculated CQIs q_k . The invention further relates to devices, transmitting stations, wireless communication systems, computer programs and computer program products.